WHAT IS CLAIMED IS:

1.      In an optical network having a plurality of interconnected nodes, each node capable of selectively switching optical signals in a first wavelength channel and an input fiber and to any one of a plurality of wavelength channels and output fibers, a method of restoring connection between said nodes upon a failure of said network, said method comprising

       maintaining at each of said nodes a synchronized database of network connections between said nodes;

       sending messages to other nodes to initiate restoration operations by a node noticing said failure; and

       recalculating network connections around said failure by each node from a synchronized database at said node.

2.      The method of claim 1 wherein said recalculating network connections step is performed independently by each node.

3.      The method of claim 2 wherein said synchronized database maintaining step comprises

       accepting results of said recalculating network connections at all of said interconnected nodes of said optical network; or

       rejecting said results of said recalculation steps at all of said interconnected nodes of said optical network if one or more nodes do not complete said recalculation network connections step successfully.

4.      The method of claim 3 wherein said accepting results substep is performed upon acknowledgment by each node of successful completion of said recalculation network connections step.

5.      The method of claim 4 wherein successful completion of said recalculation network connections step is acknowledged by transmitting an acknowledgment message to said node noticing said failure, said node transmitting a message to all other of said interconnected nodes of said optical network to update databases of said interconnected nodes of said optical network with said results.

1        6.      The method of claim 3 wherein said rejecting results substep is

2    preformed by lack of acknowledgment by one or more nodes of successful completion of

3    said recalculation network connections step.

1        7.      The method of claim 6 wherein said node noticing said failure

2    transmitting a message to all other of said interconnected nodes of said optical network to

3    abort said results.

1        8.      A fiberoptic network having a plurality of interconnected nodes

2    with each node capable of selectively switching optical signals in a first wavelength

3    channel in an input fiber to any one of a plurality of wavelength channels and output

4    fibers, said fiberoptic network comprising

5        a control network having a reserved wavelength channel between the

6    interconnected nodes for carrying signaling and control signals for network restoration

7    and provisioning operations.

1        9.      The fiberoptic network of claim 8 wherein said signaling and

2    control signals comprise Internet Protocol signals.